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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,616	05/08/2006	Marcus Guzmann	290780US0PCT	3592
22850	7590	04/16/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER CHOI, LING SIU	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			04/16/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/578,616	<b>Applicant(s)</b> GUZMANN ET AL.	
	<b>Examiner</b> Ling-Siu Choi	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

### DETAILED ACTION

1. This Office Action is in response to the Amendment after Final filed 03/25/2008. Claims 1-8 and 14-18 were cancelled and claims 9-13 are now pending. Since claims 9-13 were indicated allowable because the process comprises the utilization of the molar ratio of monomers in polymer I to aminoalkanesulfonic acid being 2-15:1, the indication of allowability is withdrawn due to the re-calculation of all Examples demonstrated in the disclosure of Fong et al. (US 4,604,431). Thus, the present Office Action is made as **second final rejection**. In view of the Amendment after Final, claim objections are withdrawn.

### *Claim Analysis*

2. Summary of claim 9:

A process for preparing (meth)acrylic acid copolymers, comprising:		
A	free-radical polymerization of (meth)acrylic acid to form a <b>polymer I</b>	
B	amidation of the <b>polymer I</b> by reaction with at least one aminoalkanesulfonic acid to form a sulfonated polymer	
wherein the molar ratio of monomers in polymer I to aminoalkanesulfonic acid is from 15:1 to 2:1 and		
the (meth)acrylic acid copolymer comprises		
	a	from 30 to 95% by weight of a poly(meth)acrylic acid basic framework
	b	from 5 to 70% by weight of amide units based on aminoalkylsulfonic acids
the total weight of the units in the sulfonated polymer being 100 wt% and all weights being based on the sulfonated polymer		

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fong et al. (US 4,604,431) in view of Muenster et al. (US 4,301,266).

Fong et al. disclose an amino-sulfonic-acid modified poly(acrylic acid) obtained by a process comprising heating a solution of poly(acrylic acid), amino ethane sulfonic acid (taurine), and sodium hydroxide in a reactor, wherein the poly(acrylic acid) has a molecular weight ranging from 1,000 or 2,000 to several million depending on the end-use (col. 2, lines 3-12; Examples 1-4). The following table demonstrate the molar ratios of monomer in the poly(acrylic acid) to the aminoethane sulfonic acid (Example 1-2):

Example	mole of acrylic acid in PAA	mole of taurine	molar ratio
1	$[100\text{g} \times 15\%] / 72 = 0.21 \text{ mole}$	$7.62 \text{ g} / 125.15 = 0.06 \text{ mole}$	3.5
2	0.21 mole	0.06 mole	3.5

molecular weight: acrylic acid = 72; taurine (amino ethane sulfonic acid) = 125.15

The difference between the present claims and the disclosure of Fong et al. is the requirement of a free radical polymerization to prepare the copolymer of acrylic acid and acrylamide.

It is noted that Fong et al. are silent on the method to prepare the poly(acrylic acid). However, Fong et al. recognize that "[t]hese polymers are well know and may be prepared by homo-or copolymerizing either acrylic acid or methacrylic acid" (col. 1, lines 52-56). Muenster et al. disclose a polymer used as a dispersing agent, which is obtained by polymerizing acrylic acid (or methacrylic acid) in the presence of a polymerization initiator (peroxide or azo compound) at a temperature of from 120° to 200°C (abstract; col. 2, lines 7-14; claim 1). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use free radical polymerization to make the polymer because the free radical polymerization of acrylic acid is commonly used due to its polarity and thereby obtain the present invention.

### ***Conclusion***

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114.

/Ling-Siu Choi/

Primary Examiner, Art Unit 1796

April 2, 2008

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